

## CHAPTER 1

### INTRODUCTION

1-1. Purpose and Scope. This manual provides guidance for planning, layout, and design of small boat harbor projects. These projects include boat basins, boat ramps, and channels. Small boats are classified as recreational craft, fishing boats, or other small commercial craft with lengths less than 100 ft. The goal of a good design is to provide a safe, efficient, and economical project for small vessels, with consideration to social and environmental factors.

1-2. Applicability. This manual applies to all HQ USACE/OCE elements and all field operating activities having responsibility for the design of civil works projects.

1-3. References.

- a. EM 1110-2-1612, Ice Engineering.
- b. EM 1110-2-2904, Design of Breakwaters and Jetties.
- c. EM 1110-2-5025, Dredging and Dredged Material Disposal.
- d. Coastal Engineering Research Center, CE, "Shore Protection Manual," Volumes I, II, and III, 1977, U. S. Army Engineer Waterways Experiment Station, P. O. Box 631, Vicksburg, MS 39180.
- e. ASCE--Manuals and Reports on Engineering Practice--No. 50, Report on Small Craft Harbors, 1969, American Society of Civil Engineers, 345 East 47th Street, New York, NY 10017.
- f. Coastal Engineering Research Center, CE, "Special Report No. 2, Small-Craft Harbors: Design, Construction, and Operation", 1974, U. S. Army Engineer Waterways Experiment Station, Vicksburg, MS 39180.

1-4. Bibliography. Bibliographic items are indicated throughout this manual by the author's name and the date of publication. In publications where authors are not indicated, the organization and date of publication are given. These publications are listed in alphabetical order in Appendix B and are available for loan upon request to the Technical Information Center Library, U. S. Army Engineer Waterways Experiment Station (WES), P. O. Box 631, Vicksburg, MS 39180.

1-5. Symbols. For convenience, symbols and unusual abbreviations are listed and defined in the Notation (Appendix C).

1-6. Terminology. Terms used in connection with small boat harbor projects are presented in Appendix D.

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1-7. Background. In the past 80 years, the Corps of Engineers has designed over 400 small boat harbors. These projects are located on ocean coasts, estuaries, lakes, and rivers. Some of these projects are designed for seasonal harbors of refuge, while others are for permanent year round moorage. This manual will present the Corps accumulated knowledge on successful design, problem areas, model test evaluation, and other studies applicable for successful harbor design.